```
ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
L4
     1992:490285 CAPLUS
AN
     117:90285
DN
     Enantiomerically pure (pyridylmethylsulfinyl)benzimidazoles useful as
ΤI
     drugs, and their preparation from racemates
     Kohl, Bernhard; Senn-Bilfinger, Joerg
IN
PΑ
     Byk Gulden Lomberg Chemische Fabrik GmbH, Germany
SO
     Ger. Offen., 8 pp.
     CODEN: GWXXBX
DT
     Patent
LA
     German
FAN.CNT 1
     PATENT NO.
                      KIND
                                            APPLICATION NO.
                            DATE
                                                              DATE
                      _ _ _ _
PT
     DE 4035455
                             19920514
                                            DE 1990-4035455
                       Α1
                                                              19901108 <--
     WO 9208716
                       A1
                            19920529
                                            WO 1991-EP2096
                                                              19911106
         W: AU, CA, CS, DE, FI, HU, JP, KR, NO, PL, SU, US
         RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE
                                            AU 1991-88406
     AU 9188406
                       A1
                            19920611
                                                              19911106
PRAI DE 1990-4035455
                            19901108
     WO 1991-EP2096
                             19911106
     MARPAT 117:90285
os
_{
m GI}
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AB Title enantiomers I [R1, R5 = H, C1-4 alkyl, C1-4 alkoxy; R2 = H, CF3, alkyl, (fluorinated) alkoxy, ClCF2O, ClCHFCF2O; R3 = H, alkyl, (fluorinated) alkoxy, ClCF2O, ClCHFCF2O; or R2R3 = (fluorinated) C1-2 alkylenedioxy, OCFClCF2O; R4 = H, alkyl; R6 = (fluorinated) alkoxy, PhCH2O] and their salts, useful as drugs for gastric and intestinal disorders (no data), are prepared by derivatizing their racemates (or racemate salts) at the benzimidazole N with an enantiomerically pure chiral compound, separating the resulting diastereomeric derivs., and solvolyzing

Ι

the separated derivative isomers in a strongly acidic medium. For example, (\pm) -5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole Na salt [(\pm)-II.Na] was N-alkylated by (+)-fenchyl chloromethyl ether [(+)-ROCH2Cl where R = fenchyl] in N-methylpyrrolidone to give a diastereomeric mixture of (+)-II 1-(+)-CH2OR derivative (III) and (-)-II 1-(+)-CH2OR derivative in 74% yield. Four recrystns. from EtOAc/(iso-Pr)2O gave pure III (71.4% yield), which was hydrolyzed in 90% H2SO4 at 5-10° with aqueous NaOH workup and chromatog. to give 44% (+)-II, i.e. the (+)-isomer of pantoprazole. Addnl. examples show preparation of (-)-II and of (+)-omeprazole.

=> analyze 14
ENTER ANSWER NUMBER OR RANGE (1-):1
ENTER DISPLAY CODE (TI) OR ?:rn
L5 ANALYZE L4 1 RN : 11 TERMS

=> fil reg COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 14.95 44.69 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION CA SUBSCRIBER PRICE -0.69 -1.38

FILE 'REGISTRY' ENTERED AT 12:04:24 ON 25 MAY 2004 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2 DICTIONARY FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at: http://www.cas.org/ONLINE/DBSS/registryss.html

=> s 15 L6 11 L5

=> d 1-11

L6 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 142759-21-5 REGISTRY

CN Bicyclo[2.2.1]heptane, 2-(chloromethoxy)-1,3,3-trimethyl- (9CI) (CA INDEX NAME)

FS 3D CONCORD

MF C11 H19 Cl O

SR CA

LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Journal; Patent

RL.P Roles from patents: RACT (Reactant or reagent)

RLD.NP Roles for non-specific derivatives from non-patents: PRP (Properties); USES (Uses)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 142706-18-1 REGISTRY

CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[(R)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-, (+)-

OTHER NAMES:

CN (+)-Pantoprazole

FS STEREOSEARCH

DR 558432-32-9

MF C16 H15 F2 N3 O4 S

CI COM

SR CA

LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)

DT.CA CAplus document type: Journal; Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry. Rotation (+).

PROPERTY DATA AVAILABLE IN THE 'PROP', FORMAT

18 REFERENCES IN FILE CA (1907 TO DATE)
18 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 142678-36-2 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1-[[(1,3,3-trimethylbicyclo[2.2.1]hept-2-yl)oxy]methyl]- (9CI) (CA INDEX NAME)

FS 3D CONCORD

MF C28 H37 N3 O4 S

SR CA

LC STN Files: CA, CAPLUS

DT.CA CAplus document type: Patent

RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

$$\begin{array}{c} \text{OMe} \\ \text{Me} \\ \text{CH}_2 \\ \text{N} \\ \text{Me} \\ \text{O} \\ \text{Me} \\ \text{Me}$$

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 1 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L6 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 142678-35-1 REGISTRY
- CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[(S)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-, (-)-

OTHER NAMES:

- CN (-)-Pantoprazole
- CN (S)-Pantoprazole
- FS STEREOSEARCH
- DR 252551-67-0
- MF C16 H15 F2 N3 O4 S
- CI COM
- SR CA
- LC STN Files: BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CIN, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPATFULL (*File contains numerically searchable property data)
- DT.CA CAplus document type: Journal; Patent
- RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
- RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
- RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry. Rotation (-).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 21 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 21 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L6 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 142678-33-9 REGISTRY
- CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-1-[[(1,3,3-trimethylbicyclo[2.2.1]hept-2-yl)oxy]methyl]- (9CI) (CA INDEX NAME)
- MF C27 H33 F2 N3 O5 S
- SR CA
- LC STN Files: CA, CAPLUS
- DT.CA CAplus document type: Patent
- RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 1 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L6 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 138786-67-1 REGISTRY
- CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME) OTHER NAMES:
- CN 5-Difluoromethoxy-2-[[(3,4-dimethoxypyridin-2-yl)methyl]sulfinyl]-1H-benzimidazole sodium salt
- CN Controloc
- CN Pantoloc
- CN Pantoprazole sodium
- CN Pantoprazole sodium salt
- CN Protonix
- CN Zurcal
- DR 142678-34-0, 226904-33-2
- MF C16 H15 F2 N3 O4 S . Na
- CI COM
- SR CA
- LC STN Files: ADISINSIGHT, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAPLUS, CHEMCATS, CIN, DIOGENES, IMSPATENTS, IMSRESEARCH, IPA, MRCK*, PROMT, PROUSDDR, PS, RTECS*, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL (*File contains numerically searchable property data)
- DT.CA CAplus document type: Journal; Patent
- RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
- RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES

$$F_2CH-O$$
 N
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Na

34 REFERENCES IN FILE CA (1907 TO DATE)
35 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 138530-95-7 REGISTRY

CN 1H-Benzimidazole, 2-[(S)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-, (S)-

OTHER NAMES:

CN (-)-Lansoprazole

CN (S)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl]methyl]sulfinyl]-1H-benzimidazole

CN (S)-Lansoprazole

FS STEREOSEARCH

MF C16 H14 F3 N3 O2 S

CI COM

SR CA

LC STN Files: ADISNEWS, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CIN, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, PHAR, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)

DT.CA CAplus document type: Journal; Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry. Rotation (-).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 32 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 32 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L6 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 138530-94-6 REGISTRY
- CN 1H-Benzimidazole, 2-[(R)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-, (R)-

OTHER NAMES:

- CN (+)-Lansoprazole
- CN (R)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl]methyl]sulfinyl]-1H-benzimidazole
- CN R-(+)-Lansoprazole
- FS STEREOSEARCH
- MF C16 H14 F3 N3 O2 S
- CI COM
- SR CA
- LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, IPA, TOXCENTER, USPAT2, USPATFULL (*File contains numerically searchable property data)
- DT.CA CAplus document type: Journal; Patent
- RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
- RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry. Rotation (+).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

35 REFERENCES IN FILE CA (1907 TO DATE)

36 REFERENCES IN FILE CAPLUS (1907 TO DATE)

- L6 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 119141-89-8 REGISTRY
- CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

- CN 1H-Benzimidazole-1-acetic acid, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (+)-
- OTHER NAMES:
- CN (+)-Omeprazole
- CN (R)-Omeprazole
- CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (R)-

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FS
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MF
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CI
     COM
SR
     CA
LC
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                  ADISNEWS, BEILSTEIN*, CA, CAPLUS, CASREACT, IMSPATENTS,
       IMSRESEARCH, PROMT, TOXCENTER, USPATFULL
         (*File contains numerically searchable property data)
DT.CA
       CAplus document type: Journal; Patent
RL.P
       Roles from patents: ANST (Analytical study); BIOL (Biological study);
       FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process);
       PRP (Properties); RACT (Reactant or reagent); USES (Uses)
       Roles for non-specific derivatives from patents: BIOL (Biological
RLD.P
       study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
RL.NP
       Roles from non-patents: ANST (Analytical study); BIOL (Biological
       study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP
       (Properties); RACT (Reactant or reagent); USES (Uses)
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Absolute stereochemistry. Rotation (+).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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60 REFERENCES IN FILE CA (1907 TO DATE)
               2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
              60 REFERENCES IN FILE CAPLUS (1907 TO DATE)
     ANSWER 10 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
L6
     119141-88-7 REGISTRY
RN
CN
     1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-
     pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
     1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-
     pyridinyl)methyl]sulfinyl]-, (S)-
OTHER NAMES:
CN
     (-)-Omeprazole
     (S)-5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl]-1H-
CN
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     (S)-Omeprazole
CN
     Esomeprazole
CN
     Nexiam
FS
     STEREOSEARCH
DR
     193469-77-1, 326602-80-6
MF
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SR
     C\Delta
LC
     STN Files:
                  ADISINSIGHT, ADISNEWS, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CAPLUS, CASREACT, CIN, EMBASE, IMSDRUGNEWS, IMSPATENTS,
       IMSRESEARCH, IPA, MRCK*, PROMT, PROUSDDR, PS, SYNTHLINE, TOXCENTER,
       USPAT2, USPATFULL
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(*File contains numerically searchable property data)

Roles from patents: ANST (Analytical study); BIOL (Biological study);

CAplus document type: Journal; Patent

FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry. Rotation (-).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

195 REFERENCES IN FILE CA (1907 TO DATE)

9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

197 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95510-70-6 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME) OTHER NAMES:

CN (\pm) -Omeprazole sodium salt

CN H 168/68 sodium

CN Losec Sodium

CN Omeprazole sodium

CN Omeprazole sodium salt

DR 142706-19-2, 226903-65-7

MF C17 H19 N3 O3 S . Na

CI COM

LC STN Files: ADISINSIGHT, BIOSIS, BIOTECHNO, CA, CAPLUS, CHEMCATS, CIN, EMBASE, IMSPATENTS, IMSRESEARCH, IPA, PROUSDDR, PS, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL

(*File contains numerically searchable property data)

DT.CA Caplus document type: Journal; Patent

RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: BIOL (Biological study); PROC (Process); PRP (Properties); USES (Uses)

CRN (73590-58-6)

$$\begin{array}{c|c} & & \text{Me} \\ & &$$

Na

- 33 REFERENCES IN FILE CA (1907 TO DATE)
 33 REFERENCES IN FILE CAPLUS (1907 TO DATE)

AN1988:226858 CAPLUS

DN 108:226858

Enteric-coated pellets containing omeprazole and an alkaline core and a TI water-soluble subcoating

Lovgren, Kurk Ingmar; Pilbrant, Ake Gunnar; Yasumura, Mitsuuru; Morigaki, IN Satoshi; Oda, Minoru; Ohishi, Naohiro

Aktiebolag Haessle, Swed.; Fujisawa Pharmaceutical Co., Ltd.; Yoshitomi PAPharmaceutical Industries, Ltd.

Brit. UK Pat. Appl., 15 pp. SO

CODEN: BAXXDU

DT Patent

LA English

	CNT	1							
r MIN .		TENT NO.		KTND	DATE		API	LICATION NO.	DATE
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	za	8702378		Α	19871230		ZA	1987-2378	19870401
	EP	247983		A2	19871202		EP	1987-850127	
	EP				19881019				
		247983		B1	19930107				
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	EP	496437		A3	19920902				
	EP	496437			19960717				
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	EP	567201		B1	19990915				
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	ES	2135443		Т3	19991101		ES	1993-201611	19870416
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		90393			19931029				
		90393		C	19940210				
		8701790			19871102		МО	1987-1790	19870429
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		174239		С	19940406				
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		260222		B5	19980709				
		273197		A5	19891108		שם	1987-302262	19870429
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		1820837		A3	19930607		SU	1987-4202525 1987-108762	19870429
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		1020852		В	19930526			1007 00011	10070616
		82911		A1	19910630			1987-82911	19870618
		05294831		A2	19931109			1991-355985	19911220
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		10357		B B	19960420			1993-694	19930628
		3699 3032101		T3	19960226 20000331			1993-1683	19931228 19991210
	JR	2032101		13	20000331		GR	エンフラーオリコエスエ	19991410

PRAI GB 1986-10572 A 19860430 EP 1987-850127 A 19870416 EP 1992-107179 A 19870416

AB An enteric-coated tablet comprises a core containing omeprazole (I) together with an alkaline compound, or an I-alkaline salt, optionally together with an alkaline

compound, the core is subcoated with ≥1 layers comprising water-soluble,
 polymeric, film-forming compds., and an outer layer which is an enteric
 coating. Uncoated cores (pellets) containing 90 mg/g I were prepared from a
 mixture containing mannitol 1620, anhydrous lactose 80, hydroxypropyl
cellulose 60,

microcryst. cellulose, I 200, Na lauryl sulfate 1.0, Na2HPO4 9.3, and water 515 g. The cores (500 g) were subcoated with a mixture containing 20 g PVP and 400 g EtOH, and enteric coated with a mixture containing hydroxy Me cellulose phthalate 45, cetyl alc. 5, Me2CO 219, and EtOH 680 g. The pellets were dried to a water content of 0.5%, and packed in capsules containing 20 mg I each. The composition was added to gastric juice and 96% I remained intact after 2 h whereas at pH 6 91% dissolved within 10 min.

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=> s 13
L4 20 L3
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=> d scan

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN IN Phosphoric acid, disodium salt (8CI, 9CI)

MF H3 O4 P . 2 Na

CI COM

●2 Na

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):19

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Cellulose, acetate hydrogen 1,2-benzenedicarboxylate (9CI)

MF C8 H6 O4 . \times C2 H4 O2 . \times Unspecified

CI COM

CM 1

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CM 3

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Cellulose, hydrogen 1,2-benzenedicarboxylate, 2-hydroxypropyl methyl ether (9CI)

MF C8 H6 O4 . x C3 H8 O2 . x C H4 O . x Unspecified

CI COM

CM 1

CM 2 ·

CM 3

 $_{
m H_3C-OH}$

CM 4

ОН
$$|$$
 $H_3C-CH-CH_2-OH$

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Carbonic acid, magnesium salt (1:1), mixt. with aluminum hydroxide (Al(OH)3) (9CI)

 \mbox{MF} $\mbox{ C H2 O3 . Al H3 O3 . Mg}$

CI MXS

CM 1

CM 2

Mg

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2pyridinyl)methyl]sulfinyl]-, sodium salt (9CI)

MF C17 H19 N3 O3 S . Na

CI COM

$$\begin{array}{c|c} & & & \\ &$$

Na

20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN L4

1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-

pyridinyl)methyl]sulfinyl]-, ammonium salt (9CI)

MF C17 H19 N3 O3 S . H3 N

$$\begin{array}{c|c} & & & \\ &$$

● NH₃

L420 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN IN

Carbonic acid, magnesium salt (1:1) (8CI, 9CI)

MF C H2 O3 . Mg

CI COM

Mg

L420 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Phosphoric acid, monosodium salt (8CI, 9CI)

MF H3 O4 P . Na

CI COM

Na

20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN L4IN Cellulose, 2-hydroxypropyl ether (9CI) ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT C3 H8 O2 . x Unspecified

COM CI

> CM 1

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

L420 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

2-Propenoic acid, 2-methyl-, polymer with methyl 2-methyl-2-propenoate IN (9CI)

MF (C5 H8 O2 . C4 H6 O2)x

PMS, COM CI

> CM1

$$H_2C$$
 O $|| ||$ Me- C- C- OMe

CM 2

$$\begin{array}{c} \text{CH}_2 \\ || \\ \text{Me--- C--- CO}_2 \text{H} \end{array}$$

20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN L4

IN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2pyridinyl)methyl]sulfinyl]- (9CI)

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT

MF C17 H19 N3 O3 S

CI COM

$$\begin{array}{c|c} N & O & Me \\ \hline N & S - CH_2 & N \\ \hline MeO & Me \\ \end{array}$$

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2pyridinyl)methyl]sulfinyl]-, potassium salt (9CI)

MF C17 H19 N3 O3 S . K

$$\begin{array}{c|c} & & & \\ & & \\ N & \\ & & \\ NH & \\ & & \\ N & \\ & & \\ Me & \\ \end{array} \begin{array}{c} \text{Me} \\ \text{OMe} \\ \\ \text{Me} \\ \end{array}$$

K

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

MF C17 H19 N3 O3 S . C17 H19 N3 O3 S . Na

CI MXS

CM 1

$$\begin{array}{c|c} & \text{Me} \\ & \text{O} \\ & \text{S-CH}_2 \\ & \text{N} \\ & \text{Me} \\ \end{array}$$

Na

CM 2

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN IN Magnesium hydroxide (Mg(OH)2) (9CI) ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT MF H2 Mg O2 CI COM

HO-Mq-OH

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN IN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI) ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT MF (C6 H9 N O)x CI PMS, COM

CM 1

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN IN Cellulose, 2-hydroxypropyl methyl ether (9CI) ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT MF C3 H8 O2 . x C H4 O . x Unspecified CI COM

CM 1

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

 $_{\rm H_3C-OH}$

CM 3

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN IN Ethenol, homopolymer, acetate 1,2-benzenedicarboxylate (9CI)

MF C8 H6 O4 . x C2 H4 O2 . x (C2 H4 O) x

CI COM

CM 1

CM 2

CM 3

CM 4

 $_{12}$ С— $_{20}$ СН— $_{20}$ ОН

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Magnesium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl- κ O]-1H-benzimidazolato- κ N1]-, (T-4)-(9CI)

MF C34 H36 Mg N6 O6 S2

CI CCS, COM

$$\begin{array}{c|c} & \text{Me} \\ & \text{Me} \\ & \text{N} \\ & \text{CH}_2 \\ & \text{N} \\ & \text{OMe} \\ & \text{N} \\ & \text{OMe} \\ & \text{Me} \\ & \text{OMe} \\ & \text{Me} \\ & \text{Me} \\ & \text{OMe} \\ & \text{Me} \\ & \text{$$

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-

pyridinyl)methyl]sulfinyl]-, calcium salt (9CI)

MF C17 H19 N3 O3 S . 1/2 Ca

$$\begin{array}{c|c} & & & \\ &$$

●1/2 Ca

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN

IN Carbonic acid disodium salt (8CI, 9CI)

MF C H2 O3 . 2 Na

CI COM

•2 Na

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

```
AN 2001:875245 CAPLUS
```

DN 136:11182

TI Dry blend of methoxybenzimidazole derivs. for oral dosage forms

IN Whittle, Robert R.; Sancilio, Frederick D.; Stowell, Grayson Walker; Jenkins, Douglas John; Whittall, Linda B.

PA USA

SO U.S., 39 pp., Cont.-in-part of U.S. 6,262,085.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 9

11111 0111 9								
		PA	TENT NO.	KIND	DATE	API	PLICATION NO.	DATE
	ΡI	US	6326384	B1	20011204	US	2000-645148	20000824
		US	6262085	B1	20010717	US	2000-519976	20000307
	PRAI	US	1999-150878P	P	19990826			
		US	2000-519976	A2	20000307			

OS MARPAT 136:11182

AB The present invention provides dry blend pharmaceutical formulations in unit dosage forms comprising per dosage unit one or more active pharmaceutical ingredients or pharmaceutically acceptable salts, solvates, hydrates, or combinations thereof wherein the ratio of said one or more active pharmaceutical ingredients in said formulations is essentially the same as the ratio of said active pharmaceutical ingredients in the corresponding, non-formulated drug substance and, wherein said formulations in unit dosage form are adapted for oral administration in a form of a capsule or a tablet. The active pharmaceutical ingredient is 4-methoxy-3,5-dimethyl-2-pyridinyl or one or more pharmaceutically acceptable salts, solvates, hydrates, or combinations thereof, in pure form or essentially free of 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2pyridinyl) methyl] sulfinyl] -1H-benzimidazole. For example, a tablet formulation was manufactured by complexing 5(6)-methoxy-2-[[(4-methoxy-3,5dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (I) with hydroxypropyl-β-cyclodextrin (HPβCD) in solution and spraying the solution onto lactose. The spray on lactose material was then blended with excipients and compressed into core tablets. The formulation contained I $20.0\ \text{mg}$, $\text{HP}\beta\text{CD}$ $80.0\ \text{mg}$, lactose $68.7\ \text{mg}$, magnesium stearate $0.4\ \text{mg}$, and colloidal silica 0.4 mg per tablet. Tablets were coated to a 4.5% total solids weight gain with an Opadry White coating solution as a subcoat. After drying, a 10% total solids weight gain from an Eudragit L 30 or D-55 coating solution was applied as an enteric coat.

IT 372518-59-7P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oral dosage forms containing blend of methoxybenzimidazole derivs. for treatment of gastric acid-related diseases)

RN 372518-59-7 CAPLUS

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, octahydrate (9CI) (CA INDEX NAME)

●1/2 Mg

●4 H₂O

RE.CNT 147 THERE ARE 147 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:828927 CAPLUS

DN 135:362587

TI Cyclodextrin-containing pharmaceutical formulations for benzimidazole derivatives

IN Whittle, Robert R.; Sancilio, Frederick D.; Stowell, Grayson Walker; Jenkins, Douglas John; Whittall, Linda B.; Meyer, Glenn Alan

PA USA

SO U.S., 36 pp., Cont.-in-part of U.S. 6,202,085.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 9

	PATENT NO.		KIND	DATE	APPLICATION NO.	DATE
PI	US	6316020	B1	20011113	US 2000-629587	20000731
	US	6262085	B1	20010717	US 2000-519976	20000307
PRAI	US	1999-150878P	P	19990826		
	US	2000-519976	A2	20000307		

OS MARPAT 135:362587

AB Pharmaceutical compns. comprise a benzimidazole derivative as an active ingredient or a pharmaceutically acceptable salt, solvate, hydrate, or their combinations with at least one cyclodextrin and at least one pharmaceutically acceptable carrier, diluent, or excipient. For example, to a 50 mL beaker about 1 g of 5(6)-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole was added to 30 mL of methylene chloride. Addnl. 5(6)-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole was added to the resulting solution until a suspension of the material was formed. The solution was stirred for approx. 10 min, and then filtered through a 0.45 µm PTFE or Nylon filter. The resulting saturated solution was placed in a beaker, covered,

and stored under refrigerated conditions (approx. 5°) until crystals formed (between 1-2 days). The identity of the title compound was confirmed by single crystal x-ray diffraction and/or Raman spectroscopy. The resulting material was determined to contain about 84-88% (weight/weight) of the

6-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1 H-benzimidazole and about 12-16% (weight/weight) (I) of the 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1 H-benzimidazole (II). I and II were formulated in various dosage forms, such as tablets, capsules, enteric-coated tablets, and solns. for inhibiting gastric acid secretion. The formulations contained a cyclodextrin, e.g. hydroxypropyl β -cyclodextrin, in a drug to cyclodextrin ratio of 1:4-1:20 to

increase drug solubility

IT 372518-59-7

RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(crystallization of benzimidazole derivs. for formulations containing cyclodextrin)

RN 372518-59-7 CAPLUS

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, octahydrate (9CI) (CA INDEX NAME)

●1/2 Mg

●4 H₂O

RE.CNT 147 THERE ARE 147 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
=> s c17h19n3o3s.1/2Mg/mf
L5 1 C17H19N3O3S.1/2MG/MF
```

=> d

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 202742-30-1 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, (R)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C17 H19 N3 O3 S . 1/2 Mg

SR CA

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

CRN (119141-89-8)

Absolute stereochemistry. Rotation (+).

 $O_{1/2}$ Mg

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> fil caplus COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 24.70 6.62 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL SESSION ENTRY CA SUBSCRIBER PRICE 0.00 -1.39

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FILE COVERS 1907 - 25 May 2004 VOL 140 ISS 22 FILE LAST UPDATED: 24 May 2004 (20040524/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> s 15
L6
            1 L5
=> d bib
    ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
L6
AN
    1998:98055 CAPLUS
DN
    128:154082
    Preparation of optically pure omeprazole salts.
TI
    Lindberg, Per Lennart; Von Unge, Sverker
ΙN
PΆ
    Astra AB, Swed.
    U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 256,174.
SO
    CODEN: USXXAM
DT
    Patent
    English
LΑ
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    PATENT NO.
                   KIND DATE
                                        APPLICATION NO. DATE
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                          19980203
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                                                         19950123
    CA 2337581
                     AA
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                                         CA 1994-2337581 19940527
                                         EP 2000-108479
    EP 1020460
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                          20000719
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PRAI SE 1993-1830
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    SE 1996-1383
                     Α
                         19960411
    US 1997-899931
                     B1
                          19970724
             THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 15
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
Ll
AN
     1985:137795 CAPLUS
     102:137795
DN
ΤI
     Omeprazole salts
IN
     Brandstrom, Arne Alof
     Aktiebolag Haessle, Swed.
PA
     Brit. UK Pat. Appl., 6 pp.
SO
     CODEN: BAXXDU
DT
     Patent
LΑ
     English
FAN.CNT 1
     PATENT NO.
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                                            APPLICATION NO.
                                                             DATE
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PRAI SE 1983-1182
                            19830304
     EP 1984-850066
                            19840228
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                            19840305
     US 1984-640020
                            19840810
GI
```

Ι

Omeprazole salts (I, An+ = Li+, Na+, K+, Mg2+, Ca2+, Ti4+, N+R14 or H2NC+(NH2)2 where R1 = C1-4 alkyl; n = 1, 2 or 4) are prepared for treatment of gastrointestinal disorders when cytoprotective and(or) gastric antisecretory effects are desired. The salts are more storage stable than the neutral form. Omeprazole Na salt [95510-70-6] was prepared from the omeprazole and NaOH. A syrup was prepared containing the Na salt 1.0, powdered sugar 30.0, saccharin 0.6, glycerol 5.0, flavor 0.05, EtOH 5.0, sorbic acid 0.5 NaH2PO4 9.0 g and distilled H2O to 100 mL.

=> analyze l1
ENTER ANSWER NUMBER OR RANGE (1-):1
ENTER DISPLAY CODE (TI) OR ?:rn
L2 ANALYZE L1 1 RN : 8 TERMS

=> fil reg COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 14.95 15.16 SINCE FILE DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) TOTAL ENTRY SESSION CA SUBSCRIBER PRICE -0.69 -0.69

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STRUCTURE FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2 DICTIONARY FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at: http://www.cas.org/ONLINE/DBSS/registryss.html

=> s 12 L3 8 L2

=> d 1-8

L3 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95510-76-2 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, lithium salt (9CI) (CA INDEX NAME) OTHER NAMES:

CN Omeprazole lithium salt

DR 226903-60-2

MF C17 H19 N3 O3 S . Li

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC

(Process); PRP (Properties); USES (Uses) CRN (73590-58-6)

• Li

- 6 REFERENCES IN FILE CA (1907 TO DATE)
- 6 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L3 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
- RN **95510-75-1** REGISTRY
- CN Guanidine, compd. with 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-

pyridinyl) methyl] sulfinyl] -1H-benzimidazole (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, compd. with guanidine (1:1) (9CI)

DR 226903-94-2

MF C17 H19 N3 O3 S . C H5 N3

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

CM 1

CRN 73590-58-6 CMF C17 H19 N3 O3 S

CM 2

CRN 113-00-8 CMF C H5 N3

- 3 REFERENCES IN FILE CA (1907 TO DATE)
- 3 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L3 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95510-74-0 REGISTRY

CN 1-Butanaminium, N,N,N-tributyl-, salt with 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, ion(1-), N,N,N-tributyl-1-butanaminium (9CI)

MF C17 H18 N3 O3 S . C16 H36 N

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

CM 1

CRN 95510-73-9 CMF C17 H18 N3 O3 S

MeO
$$N^{-}$$
 S CH_2 N Me Me Me Me

CM 2

CRN 10549-76-5 CMF C16 H36 N

- 1 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L3 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 95510-72-8 REGISTRY
- CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, calcium salt (9CI) (CA INDEX NAME)

DR 226903-79-3, 228248-87-1

MF C17 H19 N3 O3 S . 1/2 Ca

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPAT2, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

CRN (73590-58-6)

●1/2 Ca

6 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95510-71-7 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, potassium salt (9CI) (CA INDEX NAME)

DR 226903-70-4

MF C17 H19 N3 O3 S . K

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPAT2, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
CRN (73590-58-6)

K

10 REFERENCES IN FILE CA (1907 TO DATE)
10 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95510-70-6 REGISTRY

CN (±)-Omeprazole sodium salt

CN H 168/68 sodium

CN Losec Sodium

CN Omeprazole sodium

CN Omeprazole sodium salt

DR 142706-19-2, 226903-65-7

MF C17 H19 N3 O3 S . Na

CI COM

LC STN Files: ADISINSIGHT, BIOSIS, BIOTECHNO, CA, CAPLUS, CHEMCATS, CIN, EMBASE, IMSPATENTS, IMSRESEARCH, IPA, PROUSDDR, PS, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL

(*File contains numerically searchable property data)

DT.CA CAplus document type: Journal; Patent

 RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: BIOL (Biological study); PROC (Process); PRP (Properties); USES (Uses)
CRN (73590-58-6)

Na

33 REFERENCES IN FILE CA (1907 TO DATE)
33 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95382-33-5 REGISTRY

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium complex

CN Magnesium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]-, (T-4)-

OTHER NAMES:

CN Magnesium omeprazole

CN Omeprazole magnesium

DR 228248-86-0

MF C34 H36 Mg N6 O6 S2

CI CCS, COM

LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CIN, DIOGENES, IMSPATENTS, IMSRESEARCH, IPA, TOXCENTER, USAN, USPAT2, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

- 32 REFERENCES IN FILE CA (1907 TO DATE)
 32 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L3 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 95382-32-4 REGISTRY
- CN Titanium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato- κ N1]bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl- κ O]-1H-benzimidazolato- κ N1]- (9CI) (CA INDEX NAME)
- OTHER CA INDEX NAMES:
- CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, titanium complex
- CN Titanium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato-N1]-
- MF C68 H72 N12 O12 S4 Ti
- CI CCS
- LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL
- DT.CA CAplus document type: Patent
- RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

PAGE 2-A

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- 2 REFERENCES IN FILE CA (1907 TO DATE)
- 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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1985:137795 CAPLUS
AN
    102:137795
DN
TI
    Omeprazole salts
    Brandstrom, Arne Alof
IN
    Aktiebolag Haessle, Swed.
PA
SO
    Brit. UK Pat. Appl., 6 pp.
    CODEN: BAXXDU
DT
    Patent
    English
LΑ
FAN.CNT 1
                   KIND DATE
    PATENT NO.
                                        APPLICATION NO. DATE
    -----
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    GB 2137616 A1 19841010
GB 2137616 B2 19861112
                                        GB 1984-5511 19840302
PI
    IL 70985
                    A1 19871020
                                         IL 1984-70985
                                                         19840216
    ZA 8401202 A 19841031
DK 8400995 A 19840905
DK 160044 B 19910121
DK 160044 C 19910610
EP 124495 A2 19841107
EP 124495 B1 19870114
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                                        DK 1984-995
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       R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE
    JP 03013233
                    B4 19910222
    ES 530242
                    A1 19841101
                                        ES 1984-530242 19840302
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    HU 33798
                                        HU 1984-845
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A5 19850424
B2 19860313
    HU 193557
                                        DD 1984-260523 19840302
    DD 221459
    CS 241150
                                        CS 1984-1515
                                                         19840302
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                    B3 19860430
    RO 88721
                    A3 19870530
    SU 1314953
                    B1 19871130
A1 19900123
A 19880419
19830304
                                        PL 1984-246492 19840302
    PL 142748
    CA 1264751
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                                        CA 1984-448761
                                                          19840302
                                         US 1986-854739 19860421
PRAI SE 1983-1182
                           19830304
    EP 1984-850066
                           19840228
    US 1984-586107
                           19840305
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19840810

US 1984-640020

=> s 13

L5 8 L3

=> d 1-8

L5 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN **95510-76-2** REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, lithium salt (9CI) (CA INDEX NAME) OTHER NAMES:

CN Omeprazole lithium salt

DR 226903-60-2

MF C17 H19 N3 O3 S . Li

LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, USPATFULL

CRN (73590-58-6)

$$\begin{array}{c|c}
N & O & Me \\
N & S - CH_2 & N & Me
\end{array}$$
MeO MeO Me

● Li

6 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN **95510-75-1** REGISTRY

CN Guanidine, compd. with 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (1:1) (9CI) (CA INDEX NAME) OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, compd. with guanidine (1:1) (9CI)

DR 226903-94-2

MF C17 H19 N3 O3 S . C H5 N3

LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, USPATFULL

CM 1

CRN 73590-58-6

CMF C17 H19 N3 O3 S

$$\begin{array}{c|c} & & & \\ &$$

CM 2

CRN 113-00-8

3 REFERENCES IN FILE CA (1907 TO DATE)

3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN 95510-74-0 REGISTRY

CN 1-Butanaminium, N,N,N-tributyl-, salt with 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, ion(1-), N,N,N-tributyl-1-butanaminium (9CI)

MF C17 H18 N3 O3 S . C16 H36 N

LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, USPATFULL

CM 1

CRN 95510-73-9 CMF C17 H18 N3 O3 S

MeO
$$N^ S^ CH_2$$
 N Me Me Me OMe

CM 2

CRN 10549-76-5 CMF C16 H36 N

1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN 95510-72-8 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, calcium salt (9CI) (CA INDEX NAME)

DR 226903-79-3, 228248-87-1

MF C17 H19 N3 O3 S . 1/2 Ca

LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, USPATFULL

CRN (73590-58-6)

●1/2 Ca

- 6 REFERENCES IN FILE CA (1907 TO DATE)
- 6 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L5 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN
- RN **95510-71-7** REGISTRY
- CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, potassium salt (9CI) (CA INDEX NAME)
- DR 226903-70-4
- MF C17 H19 N3 O3 S . K
- LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, TOXCENTER, USPATFULL
- CRN (73590-58-6)

$$\begin{array}{c|c} N & O & Me \\ \hline N & S - CH_2 & N \\ \hline MeO & Me \\ \end{array}$$

• K

- 10 REFERENCES IN FILE CA (1907 TO DATE)
- 10 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L5 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN
- RN **95510-70-6** REGISTRY
- CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)

OTHER NAMES:

- CN (.+-.)-Omeprazole sodium salt
- CN H 168/68 sodium
- CN Losec Sodium
- CN Omeprazole sodium
- CN Omeprazole sodium salt
- DR 142706-19-2, 226903-65-7
- MF C17 H19 N3 O3 S . Na
- CI CON
- LC STN Files: ADISINSIGHT, BIOSIS, BIOTECHNO, CA, CAPLUS, CHEMCATS, CIN, DRUGPAT, DRUGUPDATES, EMBASE, IPA, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL
 - (*File contains numerically searchable property data)
- CRN (73590-58-6)

$$\begin{array}{c|c} N & O & Me \\ \hline N & S - CH_2 & N \\ \hline MeO & Me \\ \end{array}$$

Na

32 REFERENCES IN FILE CA (1907 TO DATE)
32 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN 95382-33-5 REGISTRY

CN Magnesium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-.kappa.O]-1H-benzimidazolato-.kappa.N1]-, (T-4)-(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium complex

CN Magnesium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]-, (T-4)-

OTHER NAMES:

CN Magnesium omeprazole

CN Omeprazole magnesium

DR 228248-86-0

MF C34 H36 Mg N6 O6 S2

CI CCS, COM

LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CIN, DIOGENES, DRUGPAT, DRUGUPDATES, IPA, TOXCENTER, USAN, USPAT2, USPATFULL

30 REFERENCES IN FILE CA (1907 TO DATE)

30 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

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RN 95382-32-4 REGISTRY
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CN Titanium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato-.kappa.N1]bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-.kappa.O]-1H-benzimidazolato-.kappa.N1]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, titanium complex

CN Titanium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-1H-benzimidazolato]bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato-N1]-

MF C68 H72 N12 O12 S4 Ti

CI CCS

LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, USPATFULL

PAGE 1-A

$$\begin{array}{c|c} \text{Me} & \text{OMe} \\ \text{Me} & \text{Me} \\ \hline \\ \text{N} & \text{O} \\ \hline \\ \text{R2} & \text{N} \end{array}$$

- 2 REFERENCES IN FILE CA (1907 TO DATE)
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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AN
     1998:98055 CAPLUS
DN
     128:154082
TI
     Preparation of optically pure omeprazole salts.
IN
    Lindberg, Per Lennart; Von Unge, Sverker
PA
     Astra AB, Swed.
     U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 256,174.
SO
     CODEN: USXXAM
DT
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LA
    English
FAN.CNT 3
     PATENT NO.
                    KIND DATE
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                    ----
                          19980203
PΙ
    US 5714504
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                                                          19950123
     CA 2337581
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                          19941208
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    US 5877192
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    JP 2004043493
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                    A2 20040212
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    EP 1994-917244 A3
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    WO 1994-SE509
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                          19940527
    US 1995-376512 A2
                         19950123
    SE 1996-1383
                    Α
                          19960411
    US 1997-899931
                     B1
                          19970724
AB
    Optically pure Na+, Mg2+, Li+, K+, Ca2+ and N+(R)4 (R = C1-4 alkyl) salts
    of (+)-5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-
     1H- benzimidazole or (-)-5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-
    pyridinyl)methyl]sulfinyl]-1H- benzimidazole, were prepared Thus,
     (-)-omeprazole (preparation given) in 2-butanone was treated with aqueous NaOH
and
    PhMe followed by stirring overnight to give 46% (+)-5-methoxy-2-[[(4-
    methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H- benzimidazole Na
    salt. A syrup formulation of the latter is given.
             THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 15
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
=> analyze 17
ENTER ANSWER NUMBER OR RANGE (1-):2
ENTER DISPLAY CODE (TI) OR ?:rn
           ANALYZE L7 2 RN :
                                 11 TERMS
=> fil req
COST IN U.S. DOLLARS
                                                              TOTAL,
                                               SINCE FILE
                                                    ENTRY
                                                            SESSION
FULL ESTIMATED COST
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                                                              83.55
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)
                                               SINCE FILE
                                                              TOTAL
                                                    ENTRY
                                                            SESSION
CA SUBSCRIBER PRICE
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                                                              -2.07
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ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

L7

FILE 'REGISTRY' ENTERED AT 12:06:47 ON 25 MAY 2004 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2 DICTIONARY FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at: http://www.cas.org/ONLINE/DBSS/registryss.html

=> s 18 L9 11 L8

=> d 1-11

L9 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 202742-30-1 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, (R)- (9CI) (CA INDEX NAME) STEREOSEARCH

MF C17 H19 N3 O3 S . 1/2 Mg

SR CA

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)

CRN (119141-89-8)

Absolute stereochemistry. Rotation (+).

●1/2 Mg

- 1 REFERENCES IN FILE CA (1907 TO DATE)
- 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L9 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 161973-10-0 REGISTRY
- CN Magnesium, bis[5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-κ0]-1H-benzimidazolato-κN1]-, (T-4)-

(CA INDEX NAME) (9CI) OTHER CA INDEX NAMES: Magnesium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2pyridinyl) methyl] sulfinyl] -1H-benzimidazolato] -, [T-4-(S),(S)] -OTHER NAMES: CN (-)-Omeprazole magnesium (S) - Omeprazole magnesium CN Esomeprazole magnesium CN CN H 199/18 Nexium CN CNPerprazole 502497-87-2, 202742-32-3, 302841-07-2, 320416-93-1, 371759-50-1, DR 372519-57-8, 376628-34-1 MF C34 H36 Mg N6 O6 S2 CCS, COM CI SR CA LCSTN Files: ADISINSIGHT, ADISNEWS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CIN, DIOGENES, EMBASE, IMSPATENTS, IMSRESEARCH, IPA, MRCK*, PHAR, PIRA, PROMT, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL (*File contains numerically searchable property data) DT.CA CAplus document type: Journal; Patent Roles from patents: BIOL (Biological study); PREP (Preparation); PROC RL.P (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses) Roles from non-patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

52 REFERENCES IN FILE CA (1907 TO DATE) 52 REFERENCES IN FILE CAPLUS (1907 TO DATE) ANSWER 3 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN 1.9 RN161796-89-0 REGISTRY CNBenzeneacetic acid, α -hydroxy-, [6-methoxy-2-[[(4-methoxy-3,5dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl]methyl ester, [S-(R*,R*)]-(9CI) (CA INDEX NAME) FS STEREOSEARCH MF C26 H27 N3 O6 S SR LC CA, CAPLUS, USPATFULL STN Files:

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP

(Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 2 REFERENCES IN FILE CA (1907 TO DATE)
- 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L9 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 161796-88-9 REGISTRY
- CN Benzeneacetic acid, α -hydroxy-, [6-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl]methyl ester, [S-(R*,S*)]- (9CI) (CA INDEX NAME)
- FS STEREOSEARCH
- MF C26 H27 N3 O6 S
- SR CA
- LC STN Files: CA, CAPLUS, USPATFULL
- DT.CA CAplus document type: Patent
- RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 2 REFERENCES IN FILE CA (1907 TO DATE)
- 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L9 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN **161796-87-8** REGISTRY
- CN Benzeneacetic acid, α-hydroxy-, [6-methoxy-2-[[(4-methoxy-3,5-

dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl]methyl ester,
[R-(R*,S*)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C26 H27 N3 O6 S

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 161796-86-7 REGISTRY

CN Benzeneacetic acid, α -hydroxy-, [6-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl]methyl ester, [R-(R*,R*)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C26 H27 N3 O6 S

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA CAplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 161796-78-7 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt, (S)-

OTHER NAMES:

CN Esomeprazole sodium

CN H 199/18 sodium

FS STEREOSEARCH

DR 174610-96-9

MF C17 H19 N3 O3 S . Na

SR CA

LC STN Files: ADISINSIGHT, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, PROUSDDR, SYNTHLINE, TOXCENTER, USPATFULL

DT.CA CAplus document type: Journal; Patent

RL.NP Roles from non-patents: RACT (Reactant or reagent) CRN (119141-88-7)

Absolute stereochemistry. Rotation (-).

Na

21 REFERENCES IN FILE CA (1907 TO DATE)

21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 161796-77-6 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2pyridinyl)methyl]sulfinyl]-, sodium salt, (R)-

FS STEREOSEARCH

DR 174610-95-8

MF C17 H19 N3 O3 S . Na

SR C

LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPATFULL

DT.CA CAplus document type: Patent

 RACT (Reactant or reagent); USES (Uses) CRN (119141-89-8)

Absolute stereochemistry. Rotation (+).

Na

12 REFERENCES IN FILE CA (1907 TO DATE)
12 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 119141-89-8 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole-1-acetic acid, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (+)-

OTHER NAMES:

CN (+)-Omeprazole

CN (R)-Omeprazole

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (R)-

FS STEREOSEARCH

MF C17 H19 N3 O3 S

CI COM

SR CA

LC STN Files: ADISNEWS, BEILSTEIN*, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, PROMT, TOXCENTER, USPATFULL

(*File contains numerically searchable property data)

DT.CA CAplus document type: Journal; Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry. Rotation (+).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

- 60 REFERENCES IN FILE CA (1907 TO DATE)
- 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 60 REFERENCES IN FILE CAPLUS (1907 TO DATE)
- L9 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
- RN 119141-88-7 REGISTRY
- CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (S)-

OTHER NAMES:

- CN (-)-Omeprazole
- CN (S)-5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl]-1Hbenzimidazole
- CN (S)-Omeprazole
- CN Esomeprazole
- CN Nexiam
- FS STEREOSEARCH
- DR 193469-77-1, 326602-80-6
- MF C17 H19 N3 O3 S
- CI COM
- SR CA
- LC STN Files: ADISINSIGHT, ADISNEWS, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CIN, EMBASE, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MRCK*, PROMT, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL

(*File contains numerically searchable property data)

- DT.CA CAplus document type: Journal; Patent
- RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
- RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
- RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry. Rotation (-).

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

195 REFERENCES IN FILE CA (1907 TO DATE)

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9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             197 REFERENCES IN FILE CAPLUS (1907 TO DATE)
     ANSWER 11 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN
L9
RN
     73590-58-6 REGISTRY
CN
     1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-
     pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)
OTHER NAMES:
     (\pm) -Omeprazole
CN
     2-[[(3,5-Dimethyl-4-methoxy-2-pyridyl)methyl]sulfinyl]-5-methoxy-1H-
CN
     benzimidazole
     5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl]-1H-
CN
     benzimidazole
CN
     Acidex
CN
     Antra
     Antra MUPS
CN
CN
     Audazol
CN
     Aulcer
CN
     Belmazol
CN
     Ceprandal
CN
     Desec
CN
     Dizprazol
CN
     Dudencer
CN
     Elgam
CN
     Emeproton
CN
     Epirazole
CN
     Gastrimut
CN
     Gastroloc
CN
     Gastrozole
CN
     Gibancer
CN
     H 168/68
     Indurgan
CN
CN
     Inhibitron
CN
     Inhipump
CN
     Logastric
CN
     Lomac
CN
     Losec
CN
     Mepral
CN
     Miol
CN
     Miracid
CN
     Mopral
CN
     Ocid
CN
     Omapren
CN
     Omebeta 20
CN
     Omed
CN
     Omedar
CN
     OMEP
CN
     Omepradex
CN
     Omepral
CN
     Omeprazen
CN
     Omeprazole
CN
     Omeprazon
CN
     Omepril
CN
     Omezol
CN
     Omezzol
CN
     Omid
CN
     Omisec
CN
     Omizac
CN
     OMP
CN
     Ompanyt
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
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DISPLAY

FS 3D CONCORD

DR 172964-80-6, 131959-78-9

MF C17 H19 N3 O3 S

CI COM

LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*,
BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CBNB,
CEN, CHEMCATS, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, HSDB*,
IMSCOSEARCH, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MEDLINE, MRCK*,
PHAR, PIRA, PROMT, PROUSDDR, PS, RTECS*, SYNTHLINE, TOXCENTER, USAN,
USPAT2, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: WHO

- DT.CA CAplus document type: Conference; Dissertation; Journal; Patent;
 Preprint
- RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); CMBI (Combinatorial study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
- RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
- RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2648 REFERENCES IN FILE CA (1907 TO DATE)
48 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2654 REFERENCES IN FILE CAPLUS (1907 TO DATE)

```
AN
    1995:438158 CAPLUS
DN
    122:196964
    Preparation of magnesium omeprazole in a crystalline form
TI
    Kaellstroem, Lars Aake; Nygren, Monica Annelie
IN
    Astra AB, Swed.
PA
SO
     PCT Int. Appl., 15 pp.
     CODEN: PIXXD2
DT
     Patent
LА
     English
FAN.CNT 1
                                          APPLICATION NO. DATE
                     KIND
                           DATE
     PATENT NO.
                           _____
                                          _____
                                          WO 1994-SE680
                     A1
                           19950119
                                                           19940708
     WO 9501977
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            GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW,
            NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN
         RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC,
             NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
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                           19990515
                                                          19940622
     IN 182619
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                                          TW 1994-83105710 19940623
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                           20021001
     IL 110190
                      Α1
                           20000726
                                          IL 1994-110190
                                                           19940701
     ZA 9404933
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                           19950220
                                          ZA 1994-4933
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     EG 21437
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                                          EG 1994-407
                                                           19940707
                                          AU 1994-71981
                                                           19940708
     AU 9471981
                      Α1
                           19950206
                      B2
                           19970710
     AU 679766
     EP 707580
                      A1
                           19960424
                                      EP 1994-921154
                                                           19940708
     EP 707580
                      В1
                           20020130
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
                                          CN 1994-192733
                                                           19940708
                           19960717
     CN 1126993
                    Α
                      В
     CN 1064680
                            20010418
                                                           19940708
                                           BR 1994-6940
     BR 9406940
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                           19960910
                                           JP 1995-504005
                                                           19940708
     JP 08512315
                      T2 19961224
                     С
                           19970304
                                           CA 1994-2166794 19940708
     CA 2166794
     HU 75314
                     A2
                           19970528
                                          HU 1995-3873
                                                           19940708
     PL 175999
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                           19990331
                                          PL 1994-312440
                                                           19940708
                     C1
                           19991020
                                          RU 1996-102079
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     RU 2139868
                                           SK 1996-22
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                      В6
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     SK 281230
                                           CZ 1996-69
                                                           19940708
     CZ 288933
                      В6
                            20010912
                                          EP 2001-117362
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     EP 1164132
                      A2
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     EP 1164132
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            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT
                                          AT 1994-921154
     AT 212628
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     ES 2100136
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                            20020901
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                                          US 1994-313342
                                                           19940927 <--
     US 5900424
                          19960105
                                          NO 1996-68
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                      Α
     NO 9600068
                      Α
                          19960109
                                          FI 1996-101
                                                           19960109
     FI 9600101
                                          HK 1998-109227
                                                           19980717
                      Α1
                          20020517
     HK 1008329
                           19930709
PRAI SE 1993-2396
                      Α
     EP 1994-921154
                      A3
                           19940708
     JP 1995-504005
                      А3
                            19940708
     WO 1994-SE680
                      W
                            19940708
     This invention provides a method for full scale prodn. of Mg omeprazole in
AB
     a cryst. form with a degree of crystallinity of .gtoreq.70% as detd. by
     x-ray powder diffraction, to be used in the manuf. of pharmaceutical
     formulations, such as tablets. Thus, a mixt. contg. MeOH, Mg, and CH2Cl2
     was heated and after cooling it to 15.degree., omeprazole was added.
     lig. was seeded with Mg omeprazole crystals and the salt was pptd. by
     addn. of water. After completion of the crystn., the crystals were
     centrifuged off and washed with a mixt. of MeOH and water. The produced
```

Mg omeprazole had a degree of crystallinity of 76%, a particle size of 19.mu.m, a d. of 1.342g/mL, a hygroscopicity of 1.62% increase upon storage for 1 mo at 94% relative atm. humidity, a moisture content of 7.6%, and a MeOH content of 0.006%.

IT 95382-33-5P, Omeprazole magnesium RL: PNU (Preparation, unclassified); THU (Therapeutic use); BIOL

(Biological study); PREP (Preparation); USES (Uses)

(prepn. of magnesium omeprazole in cryst. form)

RN95382-33-5 CAPLUS

CN Magnesium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2pyridinyl)methyl]sulfinyl-.kappa.O]-1H-benzimidazolato-.kappa.N1]-, (T-4)-(9CI) (CA INDEX NAME)

AN DN TI IN PA SO DT LA FAN	1985:137795 CA 102:137795 Omeprazole salt Brandstrom, Arn Aktiebolag Haes Brit. UK Pat. A CODEN: BAXXDU Patent English CNT 1	s e Alof sle, Sw			
	PATENT NO.	KIND		APPLICATION NO.	DATE
PI	GB 2137616 GB 2137616	A1	19841010		
	IL 70985			IL 1984-70985	19840216
	ZA 8401202	Δ	19841031	ZA 1984-1202	19840217
	DK 8400995	A	19840905	DK 1984-995	19840224
	DK 160044	В	19910121		
	DK 160044	C	19910610		
	EP 124495	A2	19841107	EP 1984-850066	19840228
	EP 124495	A3	19841107 19850515		
	EP 124495	B1	19870114		
				LI, LU, NL, SE	
	AT 24907	E		AT 1984-850066	19840228
	NO 8400772		19840905	NO 1984-772	
	NO 160204	B	19881212	1901	200.000
	NO 160204	A B C	19890322		
	FI 8400851	A	19840905	FI 1984-851	19840302
	FI 83649	В		1 1301 001	13010001
	FI 83649	C	19910812		
	AU 8425257	C A1	19840906	AU 1984-25257	19840302
	AU 563842	B2	19870723	110 1301 2020,	230.0002
	JP 59167587	A2	19840921	JP 1984-38921	19840302
	JP 03013233	B4	19910222	01 1301 30321	13010302
	ES 530242	A1	19841101	ES 1984-530242	19840302
	HU 33798	0	19841228	HU 1984-845	19840302
	HU 193557	В	19871028	10 1304 043	, 13040302
	DD 221459	A5	19850424	DD 1984-260523	19840302
		B2	19860313		
	RO 88721	B3	19860430	RO 1984-113806	
	SU 1314953	A3	19870530	SU 1984-3710408	19840302
	PL 142748	B1	19871130	PL 1984-246492	19840302
	CA 1264751	A1	19900123	CA 1984-448761	19840302
	US 4738974	A	19880419	US 1986-854739	19860421 <
TAGG	SE 1983-1182	Α.	19830304	00 1000 004/00	13000421
rwr	EP 1984-850066		19840228		
-	US 1984-586107		19840305		
	US 1984-640020		19840810		
GI	05 1504 040020		1040010		
01					

Ι

AB Omeprazole salts (I, An+ = Li+, Na+, K+, Mg2+, Ca2+, Ti4+, N+R14 or H2NC+(NH2)2 where R1 = C1-4 alkyl; n = 1, 2 or 4) are prepd. for treatment of gastrointestinal disorders when cytoprotective and(or) gastric antisecretory effects are desired. The salts are more storage stable than the neutral form. Omeprazole Na salt [95510-70-6] was prepd. from the omeprazole and NaOH. A syrup was prepd. contg. the Na salt 1.0, powd. sugar 30.0, saccharin 0.6, glycerol 5.0, flavor 0.05, EtOH 5.0, sorbic acid 0.5 NaH2PO4 9.0 g and distd. H2O to 100 mL.

IT 95382-33-5P

RL: THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of, for pharmaceuticals)

RN 95382-33-5 CAPLUS

CN Magnesium, bis[5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-.kappa.O]-1H-benzimidazolato-.kappa.N1]-, (T-4)-(9CI) (CA INDEX NAME)

```
1998:98055 CAPLUS
ΑN
DN
     128:154082
     Preparation of optically pure omeprazole salts.
ΤI
IN
     Lindberg, Per Lennart; Von Unge, Sverker
     Astra AB, Swed.
PA
SO
     U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 256,174.
     CODEN: USXXAM
DT
     Patent
LΑ
     English
FAN.CNT 3
                                                            DATE
     PATENT NO.
                     KIND DATE
                                           APPLICATION NO.
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                            19980203
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PΙ
     US 5714504
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     CA 2337581
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                            19941208
                                           CA 1994-2337581 19940527
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                            20000719
                                           EP 2000-108479
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                            20031015
           AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI
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                            20000719
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                            19990302
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     US 6143771
                       Α
                            20001107
                                           US 1999-419456
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     EP 1994-917244
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     WO 1994-SE509
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     US 1995-376512
                      A2
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     SE 1996-1383
                      Α
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     US 1997-899931
                      В1
                            19970724
AB
     Optically pure Na+, Mg2+, Li+, K+, Ca2+ and N+(R)4 (R = C1-4 alkyl) salts
     of (+)-5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-
     1H- benzimidazole or (-)-5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-
     pyridinyl)methyl]sulfinyl]-1H- benzimidazole, were prepd. Thus,
     (-)-omeprazole (prepn. given) in 2-butanone was treated with aq. NaOH and
     PhMe followed by stirring overnight to give 46% (+)-5-methoxy-2-[[(4-
     methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H- benzimidazole Na
     salt. A syrup formulation of the latter is given.
ΙT
     202742-30-1P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
     BIOL (Biological study); PREP (Preparation); USES (Uses)
        (prepn. of omeprazole salts)
RN
     202742-30-1 CAPLUS
CN
     1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-
     pyridinyl)methyl]sulfinyl]-, magnesium salt, (R)- (9CI) (CA INDEX NAME)
```

Absolute stereochemistry. Rotation (+).

●1/2 Mg

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT